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VOLUME 15, NO. 4

JANUARY 2004



A (Very) Short History of RTK GPS

by
Dr. Lon G. Toody, Geodesist

October 1995 -

We were toting around an RTK rover backpack that weighed 36 pounds - not including the rover GPS antenna which weighed another three pounds.

The receiver consumed about 12 watts of power, and the lead-acid batteries weighed 6.5 pounds each.

There were enough cables in that rover backpack to wire a Las Vegas casino!



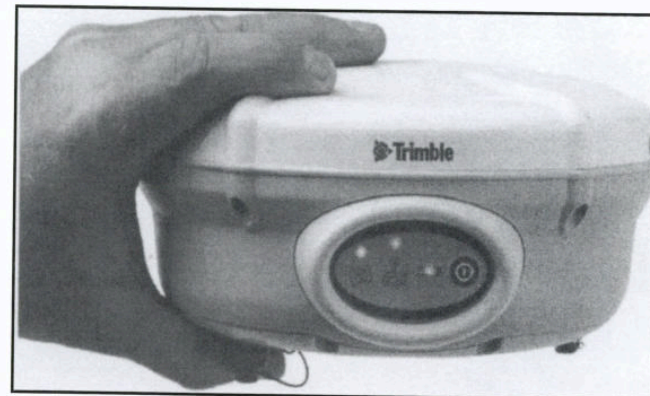
Remember when backpack meant backache?

October 2002 -

Introducing the Trimble 5800 rover receiver - the first GPS receiver with Bluetooth cable-free wireless communication! No cables at the rover!

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Glenn Borkenhagen

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Todd Ferris - Missoula, Montana

Office - 406-829-9888

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PROFESSIONAL LAND SURVEYORS OF WYOMING

Scholarship Application

Name _____ Date _____

Street Address _____ DOB _____

City _____ State _____ Zip _____

Current educational level _____

Career Plans _____

Marital Status _____ Children (how many) _____

College or University attending or planning to attend _____

Current or last available GPA _____

If receiving support from parents, please provide the following information:

Father's employer _____ Yearly Salary _____

Mother's employer _____ Yearly Salary _____

Other family members currently in college or university and receiving support from parents _____

Other scholarships, grants, loans, etc., that you are applying for or have received. Please note status of those applications ie., Received, expect to receive, applied for, haven't heard or other appropriate indication of status _____

The above information is true and complete to the best of my knowledge:

Applicant _____

Date _____

On another sheet of paper, please document your financial need, efforts you are making to earn the necessary funds, debts or other financial obligations, a budget of expected yearly educational costs, including housing, books, tuition, fees, transportation, entertainment, clothing, food, etc.

Please include a recommendation from a practicing, professional land surveyor or engineer. Their recommendation should include a reference to their being familiar with your plans to become a professional land

Investment Committee Report

At our November meeting, the Board of Directors voted to transfer \$12,000.00 to the investment account. The reasoning for this was to further expand and increase PLSW investment portfolio/scholarship fund, by generating more interest and subsequently allocate just enough in the general fund (checking account) to satisfy budgeted requirements. As of this writing the money has not been transferred.

Staff (January 9, 2004)

Scholarship Committee Report

Several applications for scholarship are being considered by the committee. They include Karl Scherbel, Hans Pederson, Lyle Casciato and several non-traditional applications through the University of Wyoming's Survey Certificate Program. Final action on several of these requests will be made at the February, General Meeting. Chairman Scott Scherbel informs that the committee will have recommendations for applicants and a report on other issues at the general meeting.

Staff (January 9, 2004)

**RECRUIT A NEW PLSW
MEMBER TODAY!**

REPRINTED MAP

SOURCES OF SNAKE RIVER

SNAKE RIVER EXPEDITION - JAMES STEVENSON, DIRECTOR

The Northwest Chapter has reprinted, from an old (perhaps first printing) lithograph found in a cabin west of Cody, the map of the Hayden-Stevenson expedition and survey of Jackson Hole, Yellowstone National Park and surrounding vicinity. The map shows the campsites of the expedition, from July 12th, 1872, at Fort Hall, Idaho Territory, up the Snake River, into Yellowstone, and returning to Fort Hall on October 11th.

The reprint measures approximately 28 inches by 29 inches overall, black printing on white background, and is printed on heavy photographic paper.

The map is representative of the cartographic style of the time and uses shading to depict mountain ranges, water lining on lakes and artistic profiles of various ranges including the Tetons.

A 39-page excerpt from "Great Surveys of the American West", by Richard A. Bartlett, published by University of Oklahoma Press, is to be included with the map (reprint permission pending) and details the progress of the expedition.

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EDITORIAL POTPOURRI

O ANNUAL WES CONVENTION - The 84th annual WES convention will be February 5-7, 2004 at the Parkway Plaza in Casper, Wyoming.

Additional information is contained in this issue. See you at the convention.

O BOARD OF DIRECTORS MEETING - The next Board of Directors meeting will be at the WES convention in February in Casper. Contact your Director for additional information.

O LINES AND POINTS FAX AND E-MAIL - Our fax number is 307-235-5604 and our E-mail address are dond@wlcwyo.com or johnhh@trib.com.

O PLSW KEY RINGS AND PINS - The South Central Chapter has key rings and pins for sale. Contact *Lines and Points*.

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PLSW (Professional Land Surveyors of Wyoming) is a statewide organization of Registered Land Surveyors licensed to practice in the Equality State of Wyoming. PLSW is dedicated to improving the technical, legal, and business aspects of surveying in the State of Wyoming. PLSW is affiliated with the American Congress on Surveying and Mapping and the Western Federation of Professional Land Surveyors.

Editorial Staff: John Hibsman, Steve Strang, Don Davis.

Lines and Points subscription \$50/year Advertising Information

Camera ready advertisements with payment should be mailed to *Lines & Points*, PLSW, Box 904, Casper, WY 82602

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Full page	\$350	\$100
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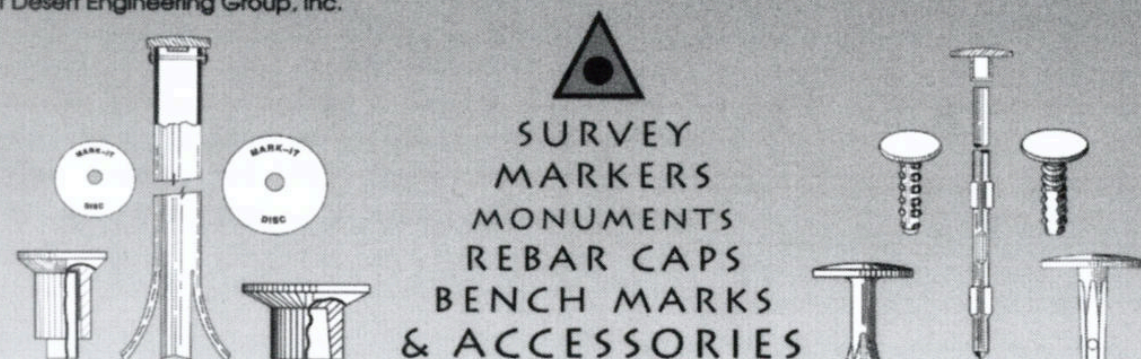
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President's Message

I hope this finds you all in good health and spirits. Christmas parties, family, friends and peace make this a special season. The work of PLSW goes on and my thanks to Joel Ebner and his Northeast Chapter committee for managing another very successful Fall Technical Session. The attendance was great and the fraternity is always good. I find the conversation during the long breaks to be as informative as the session. If the session was graded on the amount of paper one took from the session, it would be a voluminous passing grade. I believe the most important caution one could put on a railroad survey would be to give yourself time and a healthy budget. For those of you unable to attend, the railroads don't have to record or share their survey data, and just finding someone to talk to can be a very time consuming effort.



In other news our scholarship committee is growing. Chairman Scott Scherbel and his committee have been asked to rewrite our scholarship criteria and revise our application. I have heard nothing since the session and our last meeting, but the northeast chapter has notified me that Joel Ebner is their committee representative. The South-Central met early in December, but did not have a quorum and did not assign a committee member. Please find our existing application for scholarship in this issue. This form is and should be considered a draft.

Due to unexplained (solar flares) reasons, an article in the last edition of L&P was incomplete. The South-Central chapter monumentation project narrative was interrupted and did not include the entire article.

I recently had the opportunity to retrace a 1919 plat of the Town of Shawnee. Although nothing much happens there now, it was once a booming railroad town. Shawnee is about 20 miles east of Orin and just 7 miles from Lost Springs. Still lost? How about 25 miles west of Lusk. L.C. Bishop had surveyed the township and although the plat had no Surveyor Certificate or monumentation language, my suspicion is that L.C. monumented Shawnee also.



We came off a call from the railroad mainline and chained down old fences and rock walls. As one might expect, a metal detector found everything but acceptable monuments. Moving south and away from "developed" Shawnee we made a stab at digging for cedar hubs.

L.C. had monumented some of the land corners with 4x4 red cedar posts so we dug. We exposed about a meter square



excavation, maybe a foot deep and started shaving. At the edge of the excavation we hit decomposing wood. As we carefully exposed the wood we determined we had recovered a 2x2 red cedar hub.

One hub does not make a survey, so we went across the 66 foot wide road and with the same effort recovered a much more substantial monument, again 2x2 red cedar.

SHAWNEE IS FOUND! we proclaimed. Monument was retrieved and prepped for presentation, and both were memorialized with 5/8"x24" rebar and aluminum cap. Although my days seem resigned to the office, these surveys still make a man feel young.

Until February and the WES conference here in Casper, Happy Holidays!

Don A. Davis, President

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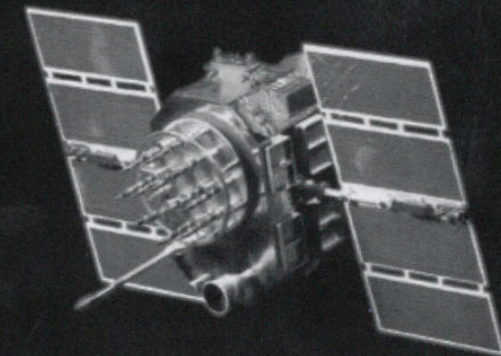
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-BRIGHTER LANDSCAPE

(Continued from Page 8)

"It allows them to let us and us to let them," Bloom said.

The relationship made sense to Rebecca Bruno, a Metro surveying student who expects to graduate in December 2004. Bruno is working as a temporary employee and intern at the BLM.

"There's so much opportunity in the BLM for surveying. Tons," said Bruno, a 29-year-old student who had already graduated from Fort Lewis College with a degree in international relations when she enrolled in Metro's surveying program.

"I had no idea what I was going to do with my life when I graduated," she said.

"Surveying offers so many opportunities to be physically active and use the brain," she said. "It demands a lot of detail, math computations and you get to dig holes."

Bruno currently attends school part time and works full time for the BLM.

She is completing field notes from a survey the agency did last Summer on the boundaries of an Indian reservation in Utah. Along the way, she saw a lot of petroglyphs and arrowheads.

"We are allowed to go places most people never get to see," she said.

Reprinted from the *Rocky Mountain News*, 10 November, 2003.

SIGNS

- On a plumber's truck:**
"We repair what your husband fixed."
- On the trucks of a plumbing company:**
"Don't sleep with a drip. Call your plumber."
- Pizza shop slogan:**
"7 days without pizza makes one weak."
- Door of a plastic surgeon's office:**
"Hello. Can we pick your nose?"
- At a towing company:**
"We don't charge an arm and a leg. We want tows."
- On an electrician's truck:**
"Let us remove your shorts."
- At an optometrist's office:**
"If you don't see what you're looking for, you've come to the right place."
- At a car dealership:**
"The best way to get back on your feet — miss a car payment."

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- Lapel Pins..... \$5.00
Key Rings (few left) \$5.00

South Central Chapter

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Survey Video Tapes Available

TAPE ONE

1. *Professional Land Surveyors & GIS; Mapping the Future*; New Jersey Society of Professional Land Surveyors.
2. *Professional Land Surveying: A Career Without Boundaries*; New Jersey Society of Professional Land Surveyors.
3. *A Matter of Degrees*; American Congress on Surveying and Mapping, National Society of Professional Surveyors (1986).
4. *Surveyors of the Sixth Principal Meridian*; Bureau of Land Management

TAPE TWO

1. Wyoming T2 Center: *Surveying Crew Orientation: Surveying Options, Part I.*
1. Wyoming T2 Center: *Surveying Crew Orientation: Surveying Options, Part II.*

TAPE THREE

1. *Introduction to Legal Research*; by West Publishing (nine chapters).

All PLSW chapters should have copies available.

AERO-METRIC

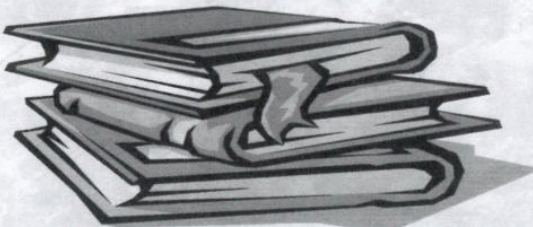
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**Professional Land Surveyors of Wyoming, Inc.
Board of Directors' Meeting Minutes. November 13, 2003**

1. The Board of Directors' Meeting of the Professional Land Surveyors of Wyoming was called to order at 5:17 P.M., November 13, 2003 at the Parkway Plaza in Casper.
 - a. President Don A. Davis presiding.
 - b. Roll call of officers and directors - see last page of minutes for complete list of those in attendance.
2. The Agenda was available for all who did not receive one in the mail.
3. Board of Directors Minutes: Motion by Roger Krum\Bill Fehringer to approve the minutes of the last Board of Directors meeting which was a Teleconference.
4. Secretary's Report: No Report.
5. Treasurer's Report: Status of the savings and checking accounts as of July 31 were reported and also shown in the minutes of the August 23 Meeting.
 - a. Paul Scherbel asked about the relatively large amount of money in the checking account at the Hilltop Bank, Casper.
 - b. Motion by Paul Scherbel\Bill Fehringer to transfer \$12,000.00 to the Investment Committee in Cheyenne. Motion passed by unanimous vote.
6. President's Report: Need updated application form for scholarship. Scholarship Committee to work on new form.
 - a. Pay Skylar Wilson for PLSW web page he has been

- supporting with his own money for months.
- b. Pay Web site host with certified check annually.
7. Committee Reports:
 - a. Audit-Finance Committee: No report.
 - b. Bylaws Committee: No report.
 - c. Convention Committee: Planning Civil Survey programs 4, 5 and 6 February.
 - d. Education Committee: No Report.
 - e. History Committee: No report.
 - f. Legislative Committee: No report.
 - g. Lines and Points: Secretary\Treasurer to pay \$750.00 to committee. (recent up date - Lines and Points should be receiving \$875.00 four times each year).
 - h. Manual of Professional Practice: Manual was submitted to WES for review in May 2003 by Don Oakley and Rick Hudson.
 - i. Membership Committee: No report.
 - j. Nominations and Elections Committee: No report.
 - k. Professional Awards Committee: Jeff Jones reports that last year there were 3 winners - he will send me written report.
 - l. Public Relations Committee: No report.
 - m. Scholarship Committee: Scott Scherbel - discusses amount of funding for scholarships - Report to February meeting.
 - n. Standards, Ethics & Professional Practice Committee: Don Davis states that the State Board of Registration is looking at hiring a full time investigator to handle complaints to the Board.
 9. Delegate reports:
 - a. WFPS report to be in Lines and Points. Paul Reid is delegate. Paul discussed Model Law and noted that some requirements are not acceptable in some states. WFPS Board of Directors want to come to Wyoming in 2007 and have joint meeting with PLSW Board. Paul is Scholarship Chairman for WFPS, they have 4 scholarships for \$600 each and 4 scholarships for \$1,200 each.
 10. State Board of Registration for Professional Engineers and Professional Land Surveyors. Dennis Dawson announced that the new regulations are out and copies can be obtained by contacting the Board of Registration.
 11. Miscellaneous:
 - a. Southwest Chapter wants to use PLSW logo. No action.
 - b. Discussion of "Safety Manual". Committee is setup to review manual. Members - Paul Scherbel, Don Davis, Gary Hatle and Troy Fields.
 - c. Don Davis announced that PLSW will provide "seed" money to start fund raiser.
 - d. Paul Scherbel submitted letter to Director of State Lands to "sign" state land boundaries. No response.
 - e. Discussion by Jeff Jones, NSPS Director, to allow out of state members to pay same fees as in state members.
 12. New Business:
 - a. Next quarterly Board of Directors meeting to be February 4, 2004, following General membership meeting.
 13. Announcements:
 - a. Recent loss of loved ones by PLSW members. Carol Steil, wife of John Steil and Luann Schramm, wife of Don Schramm.
 - b. Don Davis will send condolences.
 14. Adjournment: 7:15 pm. November 13, 2003.

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WESFED REPORT

WFPS Board of Directors Meeting held October 25, 2003 in conjunction with the New Mexico Professional Land Surveyors Board of Directors Meeting at the Best Western Rio Rancho, Rio Rancho, New Mexico.

Chairman Chuck Paddock called the meeting to order at approximately 8:05 a.m. Roll Call was taken and Secretary

Steve Parrish declared a quorum present with 18 delegates representing all states. Guests in attendance were Curt

Sumner, Executive Director, ACSM; Dr. Steve Frank, Director of the University of New Mexico Surveying Department.

Correction and approval of June 21, 2003 Meeting Minutes was done.

President Chuck Paddock provided a written report of his two years as chairman of WFPS. He cited some of the accomplishments of WFPS and being a key to the assistance with the "New ACSM", which really equates to a "New NSPS". He also stated the next few years will be crucial to the success of the new organizations. In closing, he gave thanks for the opportunity to represent WFPS.

Treasurer Jerry Tippin prepared and presented WFPS financial statements for the period ending August 31, 2003. Summarily WFPS has \$9,000.58 in the checking account, \$36,262.78 in CD#1 (Scholarship), \$45,065.11 in CD#2, and \$78,269.05 in the new Money Market Account. The Money Market account is temporary until the CD market improves. Included in the account is the \$14,668.00 from the Conference Scholarship Auction as well as approximately \$45.00 of accrued interest on the scholarship funds.

The 2004 Budget was reviewed with an adjustment of \$5000 being added for an audit.

Installation of new officers was completed with the new officers being Ron Whitehead, Chairman; Mike Mickiewicz, Chairman Elect; and Harold Baldwin, Secretary.

Agenda revisions were made.

State reports were reviewed with each member delegate giving verbal updates or noting specific issues and items important to their respective state.

A Bylaws amendment was voted on and accepted for the addition of voting through the use of e-mail.

Committee reports were reviewed and discussed.

Curt Sumner reported on ACSM activities and the reorganization.

Various other topics discussed with no action were GIS, Trig-Star program, CST certification and what different states charge for vendor fees at their state conventions.

The NCEES "Model Law" was discussed with the states of Washington, New Mexico and California being on record as not supporting the model law.

A review of the current action items was made and updated.

Next meeting will be February 28, 2004 in Missoula, Montana at the Holiday Inn, Parkside. This will be in conjunction with the Montana Association of Registered Land Surveyors convention. The convention theme will be "Titles and Boundaries Past and Future".

Meeting was adjourned at 3:45 p.m.

Respectfully submitted.

Paul Reid, Wyoming Delegate

REGISTRATION BOARD NEWS

by Martin Pederson, L.S.

The Wyoming Board of Registration for Professional Engineers and Professional Land Surveyors held its regular meeting Dec. 8, 2003 at the Board Office in Cheyenne.

Dr. Herb Stoughton came before the board to advise them on the status of Land Surveying courses at Laramie County Community College, and Metro State in Denver. Students are able to get an Associates degree at LCCC, and a Bachelors degree at Metro.

Board members Stan Abell and Pete Hutchison reported on the Accreditation Board on Engineering and Technology visits to Metro State and Wyoming respectively. Metro is seeking it's first accreditation for the Surveying program, and UW is seeking renewal of the accreditation for the Engineering program.

A portion of the day's agenda was taken up with interviews with engineering or surveying test applicants. Due to recent changes in procedure that was mandated by court decisions, appeals on denials or personal interview are now conducted by an application committee rather than by the full board.

The Board continues to look for an investigator to handle all of the board investigations. An RFP was distributed in early fall, but only one response was received, so the board is re-advertising the RFP. If you or someone you know is interested in contracting with the Board to act as its investigator, please contact the Board office to receive the material. PEs or LSs are eligible to fill this position.

The next scheduled meeting of the Board is March 8, 2004, at the Board office in Cheyenne.

WES 2004 TENTATIVE PROGRAM SCHEDULE

Tuesday Feb. 3, 2003			1:15PM-3:00PM	Tour of Wyoming Concrete Products Plant - Shane Conley. John Finch, et al	Off Property
3:00 PM	Registration Committee Training	Reg. Booth			
4:00PM-5:30PM	Pre-Conf. Meeting	Champaign	2:30PM-3:00PM	Break	MG/NAT/WYO
7:00PM-9:00PM	Registration	Reg. Booth	3:00PM-4:00PM	Session 4A/Surveying MODERATOR: Bill Fehrenger, LS	Tiffany
Wednesday Feb. 4, 2004				Shoshoni - Green River Railroad Corridor Marty Manesco, WyoTrans, Inc.	
8:00AM-9:00PM	Registration	Reg. Booth	3:00PM-4:00PM	Session 4B/General MODERATOR: Don Davis, LS	American
8:00 AM-Noon	ASCE Tech Sessions	BLRMs A and B		Midwest CO2 Project	
9:30 AM-9:45 AM	Break	Mallway Hotel		Anadarko	
Noon	Bus Arrival	Tiffany	3:00PM-4:00PM	Session 4C/Engineering MODERATOR: John Finch, PE	Champagne
1:00PM-5:00PM	PLSW Meeting	Ballroom B		Design Concrete Pipe by Standard Installation Methods	
1:00 PM-2:30 PM	ACEC Wyoming	Ballroom A		Randy Whalen, Mountain States Concrete Pipe Assoc	
1:00 PM-2:30PM	WACERS	Mallway		Spouse Lunch/Tour	Off Property
2:30 PM-2:45 PM	Break	Ballroom B		Exhibitors Beer	MG/NAY/WYO
2:45 PM-3:45 PM	ASCE	Ballroom B		Break and Drawings	
4:00 PM-5:00 PM	WSPE Meeting	TBA		Cocktail Hour	TBD
5:00 PM-6:00 PM	U.W. Eng'r. Dept. Open House	Various	Noon - 3:00PM	Dinner	TBD
6:00 PM-1:00 AM	Hospitality Rooms	Ballroom A and American	4:00PM		
6:00 PM	Early Bird Dinner				
Thursday Feb. 5, 2004					
8:45AM-10:00AM	Session 1A/Surveying MODERATOR: Joel Ebner, LS	Tiffany	6:00PM-7:00PM		
	Current Status of Geographic Coordinate Data Base		7:00PM		
	Milbert Kron, BLM				
8:45AM-10:00AM	Session 1B/General MODERATOR: Joe Lord, PE	American	6:30AM-7:00AM	Registration - Third Annual Hangover 5K	Hallway by All That Jazz
	The Official Wyoming Highway Map		7:00AM	Road Race/Walk	
	John Waggener, UW			Past Presidents' Breakfast	Champagne
	American Heritage Center		8:30AM-9:45AM	Session 5A/General MODERATOR: Mark Eatenger, PE	Tiffany
8:45AM-10:00AM	Session 1C/Engineering MODERATOR: Andrew Beamer, PE	Champagne		Trans Basin Water Diversion	
	Concrete Repair		8:30AM-9:45AM	WWDC Mike Besson	
	Scott Whipperman XYPEX			Session 5B/Engineering MODERATOR: Abe Knapp, PE	American
10:00AM-10:30AM	Break	MG/NAT/WYO		Engineering in Afghanistan	Rob Harrington, Maxim Technologies
10:30AM-11:30AM	Session 2A/Surveying MODERATOR: John Lee, LS	Tiffany	8:30AM-9:45AM	Session 5C/General MODERATOR: Jeff Fuller, PE	Champagne
	CORS-OPUS-LINEX			You Can Work With Planners, Steve Kurtz	
10:30AM-11:30AM	Mike Londe, PhD, NGS	American		And Joanne Garnet	
	Session 2B/Engineering MODERATOR: Ray Jacquot			Worthington- Lenhart	
	Medicine Bow Trail		10:15AM-11:30	Session 6A/Surveying MODERATOR: Ray Scott, LS	Tiffany
	Rails-To-Trail			New Technology in Photogrammetry	
	Conversion Project			David Holm, Horizons	
	Our very own Joe Lord, PE		10:15AM-11:30AM	Session 6B/General MODERATOR:	American
10:30AM-11:30AM	Session 2C/Engineering MODERATOR: Harry Kessner, PE/LS	Champagne		Uinta County Wind Power	
	Ultra Thin Whitetopping	Concrete Association of Wyo.		Florida Power	
			10:15AM-11:30AM	Session 6C/General MODERATOR: Ed Scott, PE	Champagne
11:30AM-1:00PM	Randy Bomar, TSP Sheridan	BLRM ABC		Project of The Year Program	
1:15PM-2:30PM	Member Lunch	Tiffany		Al Nelson WES	
	Session 3A/Surveying MODERATOR: John Dolinar, LS		Noon-1:30PM	Joint Lunch-Project Of The Year Awards	BLRM ABC
	Leica CORS Total Reference			State Board	American
	James Stewell, VP		2:00PM-3:00PM	WES Annual Business Meeting	American
1:15PM-2:30PM	(TENTATIVE)	American	3:00PM-5:00PM		
	Session 3B/Engineering WYDOT Project TBA			Cocktail Hour	TBD
1:15PM-2:30PM	Session 1C/Engineering MODERATOR: Bob Swanson, PE	Champagne	6:00PM-7:00PM	Awards Banquet	TBD
	Balsa Wood Bridge		7:00PM		
	Dave Maynard, PE, WSPE				
	High School Contest				

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OBITUARIES

CAROL T. STEIL

Carol T. Steil, 56, of Cheyenne, died Nov. 12 at United Medical Center-West.

She was born Dec. 6, 1946, in Richmond, Minn.

She was formerly an LPN and more recently an administrative assistant for Steil Surveying Services.

She married John Steil on June 17, 1967, in Richmond.

Mrs. Steil was a member of the Ladies of the Elks.

She is survived by her husband, John Steil of Cheyenne; two sons, Bradley John Steil of Cheyenne and Scott Allen Steil of Gilbert, Ariz.; a daughter, Tern Steil of Aurora, Colo.; her mother, Clara Mackedanz; three sisters, Donna Zentmire of South Bend, Ind., Joanne Drontle of Cold Spring, Minn., and Mary Kascht of Madera, Calif.; and a grandson, Jackson Allen Steil.

She was preceded in death by her father, Sylvester Mackedanz.

Friends may contribute to Cheyenne Frontier Days Old West Museum, P.O. Box 2720, Cheyenne, WY 82003; or Ladies of the Elks, 100 E. 17th St., Cheyenne, WY 82001.

BERNARD F. CRONIN

CASPER — Mass of Christian Burial for Bernard F. Cronin, 84, was celebrated Nov. 20, at Our Lady of Fatima Catholic Church by Fr. Bob Cook. Interment of cremains followed in Highland Cemetery.

He died Nov. 16, 2003, at Shepherd of the Valley Care Center.

Born May 17, 1919, in Denver, he was the son of Casper area ranchers William and Nellie Cronin; was raised and educated here;

and graduated from high school in Long Beach, Calif.

On April 25, 1941, he married Winifred Reeves in Kimball, Neb.

He earned a bachelor of science degree in civil engineering from the University of Wyoming in 1942; and then was employed by Chicago Bridge and Iron Co., in Seneca, Ill., for about two years as a resident ship superintendent on one of the ten building berths for construction of LSTs.

After entering the U.S. Navy in 1944, he was an assistant ship superintendent on the repair of battle damaged ships in Marc Island, Calif.

He worked for the Bureau of Reclamation from 1946 until his retirement in late 1974; including 2.5 years on construction of Kortes Dam. During his last 10 years of employment, he was chief of the engineering and project development division of the North Platte River Project's office in Casper.

After his retirement, he was a professional engineer and land surveyor for private engineering firms in Wyoming and California.

He was a member, from time to time, of numerous social and professional organizations and enjoyed participating in a wide variety of sports.

Survivors include his daughter, Coleen Cronin of Salt Lake City; son, Vaughn Cronin of Casper; four grandchildren; three great grandchildren; sister, Marion Rochelle of Casper; and numerous nieces and nephews.

He was preceded in death by his wife of 46 years in April 1987; and two brothers, William and Joseph Cronin.

JACK CLOIDT FITCH

Jack Cloidt Fitch 64, of 30 W. Cedar Dr., Duncan Lakes, Columbus, NE died Tuesday, August 19, 2003 at the Columbus Community Hospital.

Mr. Fitch was born to Robert D. And Nadine (Cloidt) Fitch on July 13, 1939, in Omaha. He graduated from Hoidredge High School in 1957. He attended Kearney State College, the University of Nebraska, and graduated from the Colorado School of Mines.

He served in the U.S. Army from 1962 -1964.

He married Mary Ella Smithson on September 14, 1964 in Holdrege. They lived in Glenwood Springs, Colo, until moving to North Platte. They moved to Duncan Lakes in 1980. He was a long-time employee of Nebraska Public Power District where he worked as a land surveyor until his retirement in 1996.

He also maintained a residence in Brewster where he owned and operated Arrowhead Surveying. Along with his private practice he served as the Blaine County Surveyor.

He was an active member in the American Legion Post 323 in Brewster. He was also an active member of PSAN. He served as Secretary in 1980, Newsletter Editor from 1982-1984, President in 1985, and several committee chairmanships. He was also active in NSPS/ACSM serving as Nebraska Governor to NSPS for several years and as National Area Director for NSPS. He also was one of many active members of the Surveyors of the 6th PM which help remonument several key historical survey monuments and served as its president in 1988.

Survivors include his wife; two sons, Thayn R. (KerryAnn) Fitch and Thad C. (Corrine) Fitch both of Rapid City, S.D. a brother Jay (Shirley) Fitch of Flagstaff, Arizona and seven grandchildren. Memorials are suggested to the American Legion Post 323 in

Two Inducted into Hall of Fame

LARAMIE (AP) — Floyd A. Bishop of and Kenneth G. Wolf have been inducted in to the University of Wyoming College of Engineering Hall of Fame.

The college's Hall of Fame was established in 1998 to recognize outstanding graduates who have distinguished themselves nationally or internationally through their professional achievements and leadership in engineering.

Bishop, a Douglas native who received a degree in civil engineering in 1942, is recognized as an authority on western water resources. He served as state engineer under Governors Cliff Hansen and Stan Hathaway.

During his career, Bishop guided Wyoming's water development and regulation. He served as Wyoming's designated representative in interstate water matters, including administration and negotiation of compacts.

Wolf, a Gillette native who received his master's degree in electrical engineering from UW in 1963, was a leader in the development of the semiconductor business in the United States and internationally.

He began his career in 1965 as a design engineer with Motorola and rose through the corporate ranks to vice president.

He started his own company, Synergy Semiconductor, which was purchased five years later by MICREL.

In the early 1990s he served briefly as president, CEO and director of Performance Semiconductors, before becoming vice president of National Semiconductor. He was responsible for a successful \$400 million business unit that eventually became Fairchild Semiconductor.

From 1997-2001, Wolf was the executive vice president of worldwide operations for Burr-Brown Corp. Wolf retired in 2001.

Brighter Landscape for Surveyors

By John C. Ensslin
Rocky Mountain News

Seven years ago, Metropolitan State College was getting ready to pull the plug on its four-year degree program for land surveyors.

The program had about 36 students and interest in sustaining it seemed minimal.

Today, the landscape is dramatically different. There are 150 declared majors in the program, which is one of just two in the Rocky Mountain West.

And the demand for surveyors in government and construction is such that the school can't turn them out fast enough.

This week, the U.S. Bureau of Land Management will sign a 5-year agreement with Metro. The BLM will provide \$50,000 for each of those years to help increase enrollment in the program.

"We're happy with the student body that we're getting there," said Randy Bloom of the BLM's office in Lakewood.

"There's been a mutually beneficial relationship, and we're satisfied with the product."

Similar BLM grants have been made to colleges in Maine, Oregon and New Mexico.

Bloom said the bureau likes the diversity of the students it gets from Metro. It also helps that they are Colorado residents and less apt to move away once they get their training.

The bureau is also mindful of the fact that many of the surveyors working for the federal government are in their 50s. Grooming new surveyors now makes sense, he said.

Metro's surveying and mapping program started in 1976. Two decades later, the school had been prepared to end it after graduating the students enrolled at that time, said Herb Stoughton, chairman of the program.

The Professional Land Surveyors of Colorado came to the program's rescue, Stoughton said.

"When they learned about this plan, they formed a task force to see if they could save the program, because they knew if it disappeared it would be impossible to get a four-year program in Colorado," Stoughton said.

The task force helped overhaul the program's curriculum, found donated equipment for the school and helped raise scholarship money.

The average starting salary for a government surveyor is about \$23,400 a year Stoughton said.

For the last four years, the BLM's Colorado office has been hiring two interns from Metro each year. After they graduate, the bureau has hired several of them to fill vacancies.

(Continued on Page 12)

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